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AUTHOR Pollard, Richard
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ABSTRACT

With the support of a grant from the U.S. Department of Education, the University of Tennessee, Knoxville libraries placed Scholar's Workstations at four sites with personnel involved in environmental studies. Each workstation functioned as an electronic branch library providing on-site access to selected central library services, information sources, and Internet services. A range of subjects, from undergraduates to post-doctoral fellows, was surveyed about use and availability of library services and information sources before and after installation of the Workstations. Analysis of data from undergraduate subjects was largely inconclusive. Data from other user categories indicate that use of several electronic sources and Internet services increased after subjects' exposure to the Workstations. User perceptions of the availability of electronic information sources also improved. While no evidence of changes in the level of use of library services was found, user perceptions of the availability of these services did improve. Appendices include the model Scholar's Workstation registration/user profile and questionnaire. (Author/MES)

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The impact of a Scholar's Workstation on the use of library services and electronic sources.

ED 438 844

Richard Pollard
School of Information Sciences, University of Tennessee, Knoxville, TN 37996.
E-mail: Richard-Pollard@utk.edu

Abstract

With the support of a grant from the U.S. Department of Education, the University of Tennessee, Knoxville Libraries placed Scholar's Workstations at four sites with personnel involved in environmental studies. Each Workstation functioned as an electronic branch library providing on-site access to selected central library services, information sources and Internet services. A range of subjects, from undergraduates to post-doctoral fellows, was surveyed about use and availability of library services and information sources before and after installation of the Workstations. Analysis of data from undergraduate subjects was largely inconclusive. Data from other user categories indicate that use of several electronic sources and Internet services increased after subjects' exposure to the Workstations. User perceptions of the availability of electronic information sources also improved. While no evidence of changes in the level of use of library services was found, user perceptions of the availability of these services did improve.

R. Pollard

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Introduction

A persistent challenge for librarians has been to harness Information Technology to provide a "coordinated gateway access to the universe of knowledge in a manner convenient and invisible to the end user" (Battin 1987). The Scholar's Workstation concept has been proposed as a way of responding to this challenge (Brodie 1989). The widespread availability of personal computers combined with the almost universal adoption of Internet protocols has made this concept a reality.

The typical Scholar's Workstation provides an integrated environment for performing information retrieval, bibliographic data management, communications, and personal productivity tasks (Weissman 1988). It also provides links to local, national and international information sources such as online catalogs, citation databases, and the Internet (Cairns and Royan 1995).

In 1993 the University of Tennessee, Knoxville (UTK) received a Department of Education Research and Demonstration Grant (HEA Title II-A) for a Scholar's Workstation project. In the preceding decade library services at UTK had become increasingly centralized and some faculty, particularly those in science and engineering, reported using central library services considerably less often than they had used the branch libraries. These same faculty members also expressed a need for more specialized services and better remote access to central library services. The purpose of the UTK Scholar's Workstation project was to use library-supported workstations to provide many of the services formerly offered by branch libraries.

A Scholar's Workstation was installed in a central location at each of four sites where faculty and students were engaged in projects related to environmental studies. The Workstations were configured to provide convenient access to various library services and electronic resources. On-site project staff provided technical support, training in the use of the Workstation and its electronic resources, reference assistance, and referral to subject specialists at the central library. Detailed accounts of the project can be found in (Heck and Baker 1995) and (Phillips 1995).

While several Scholar's Workstation projects have been implemented elsewhere (Cairns 1997) very few studies of their impact on library services appear to have been published. An exception is a case study of an early project at Brown University (Moran, Surprenant, and Taylor 1987). In this article we report the results of a study comparing the level of use and perceived availability of various library services and information sources before and after installation of the Scholar's Workstations. The study addresses four specific research questions.

1. Will the level of use of selected library services change significantly after subjects have been exposed to the Scholar's Workstation?
2. Will the level of use of selected electronic information sources change significantly after subjects have been exposed to the Scholar's Workstation?

3. Will the level of use of selected Internet services and sources change significantly after subjects have been exposed to the Scholar's Workstation?
4. Will the perceived availability of the selected library services and information sources change significantly after subjects have been exposed to the Scholar's Workstation?

Finding answers to these questions is important to practitioners and researchers alike. Practitioners would like to know if online access will lead to changes in the level of use of centrally provided library services such as reference, interlibrary loan, library instruction, and mediated searches. Researchers will be interested to know if there is any evidence to suggest that using a Scholar's Workstation to provide convenient access to library services and information sources leads to changes in levels of use.

Methods

Subjects

Subjects from four sites (G, I, K, and P) participated in the study. Site G was an off-campus research center with a focus on the scientific and socioeconomic aspects of environmental protection and restoration. This center was used by more than 50 researchers including faculty, graduate students and post-graduate personnel. The remaining sites were located on the Knoxville campus. Site I, with twelve faculty members and more than 100 graduate students, offered a program in environmental engineering. Site K was a multidisciplinary research center with a focus on environmental policy research. Site P offered a course in environmental reporting and had six faculty members involved in teaching this and other undergraduate and graduate science communication courses. Although these four sites encompassed a wide range of disciplines, they all had a common interest in information related to environmental studies.

Participation in the study required that subjects complete both a registration questionnaire and a follow-up questionnaire. Of the 274 subjects who completed a registration questionnaire, only 112 (40.88%) completed a follow-up questionnaire. Participation rates varied by site as shown in Table 1.

Site	Registration questionnaire	Follow-up questionnaire	Participation rate (%)
G	35	12	34.29
I	32	5	15.63
K	23	15	65.22
P	184	80	43.48

Table 1 Participation Rate by Site

The largest number of participants were from site P (N = 80, 71.43%). The two research centers contributed smaller numbers of subjects: site G (N = 12, 10.71%), site K (N = 15, 13.39%). Site I contributed very few subjects (N = 5, 4.46%).

Undergraduate students, all of whom came from site P, were by far the largest proportion of subjects in the study (N = 58, 51.79%). Graduate students came in a distant second (N = 26, 23.21%). Faculty (N = 13, 11.61%), post doctoral fellows (N = 3, 2.68%), and research associates/assistants (N = 9, 8.04%) were represented in much smaller numbers. Two subjects (1.79%) reported an academic status of "other" and there was one (0.89%) missing value.

The sites differed widely in terms of the proportion of subjects in each academic category. The majority of subjects from site P were undergraduates (N = 58, 72.5%), followed by graduate students (N = 15, 18.75%), faculty (N = 6, 7.5%), and research associates/assistants (N = 1, 1.25%). Site K contributed similar numbers of research associates/assistants (N = 6, 40%) and faculty (N = 5, 33.33%), one graduate student (6.67%), two subjects with an academic status of "other" (13.33%) and one missing value (6.67%). Subjects from site G were predominantly graduate students (N = 8, 66.67%), followed by post-doctoral fellows (N = 3, 25.0%) and one research associate/assistant (8.33%). Site I contributed equal numbers of faculty (N = 2, 40.0%) and graduate students (N = 2, 40.0%) and one research associate/assistant (20.0%).

Research design

The study was originally planned as a one-group pretest-posttest design. A registration questionnaire was used to collect data at the time subjects volunteered to participate and a follow-up questionnaire was distributed at a later date. Only those subjects who completed both a registration and a follow-up questionnaire were included in the data analysis.

On inspection of the collected data, it was apparent that subjects from site P fell into two distinct groups: those who reported having used the Scholar's Workstation at least once (N = 55, 68.75%) and those who reported having never used the Workstation (N = 23, 28.75%)[1]. The data from site P was therefore analyzed in a manner appropriate to a nonequivalent control group pretest-posttest design.

Data collection instruments

The registration and follow-up questionnaires were both pilot-tested by faculty and students who were not eligible to participate in the study. The questionnaires took approximately ten minutes to complete.

[1] There were two missing values.

Registration questionnaire

The registration questionnaire (Appendix A) was used to gather data about subjects' academic status, their use of various sources and services, and their opinions about the availability of these sources and services. All ratings were recorded on a scale of 1 to 5 with an option for a NA (not applicable) response.

Section one of the registration questionnaire asked subjects to indicate their academic status by selecting one of the following categories: Faculty, Post Doctoral Fellow, Research Associate/Assistant, Graduate student, Undergraduate student, or Other.

Section two (research question 1) asked subjects to rate their current level of use of various library services on a scale of 1 (rarely) to 5 (frequently) with a rating of NA meaning that the service had never been used. The specific library services included in this section were: reference assistance, interlibrary services, document delivery service, library instruction, and mediated online searching. These particular services were included because they had been rated as highly important in a needs assessment performed for the UTK Libraries during 1993-94.

Section three (research question 2) asked subjects to rate their level of use of various electronic information sources during the preceding four months. The rating scale used was the same as that in the previous section. Sources included in this section can be categorized as online catalogs, online databases, CD-ROM databases, and computer data sets

Section four (research question 3) asked subjects to rate their level of work-related use of various Internet services and sources during the preceding four months. The rating scale used was the same as that in the previous section.

Section five (research question 4) solicited subjects' opinions on the availability of library services and electronic information sources at their sites. The rating scale used in this section was 1 (poor) to 5 (excellent). Question 5.3 and sections six and seven of the questionnaire are not relevant to the present study.

Follow-up questionnaire

The follow-up questionnaire (Appendix B) requests information about subjects' level of use of the Scholar's Workstation and all the same information requested by sections two through five of the registration questionnaire. Question 5.3 and sections seven through nine of the follow-up questionnaire are not relevant to the present study.

Procedure

Registration questionnaires were distributed to eligible subjects throughout the spring and fall semesters of the 1994-95 academic year. Subjects were recruited in several ways.

Questionnaires, accompanied by a brochure about the Workstation, were placed in all faculty, research staff, and student mailboxes at each site. Because undergraduates at site P did not have mailboxes, instructors recruited these subjects during classes. Questionnaires were also distributed at each site during presentations about the Scholar's Workstation. In addition, questionnaires were made available adjacent to the Workstations.

Follow-up questionnaires were distributed only to those who had completed a registration questionnaire. Students received follow-up questionnaires towards the end of each semester to reduce loss of subjects due to graduation. Faculty and research staff received follow-up questionnaires towards the end of the fall and spring semesters. If a subject completed more than one follow-up questionnaire, only the most recent data were used in the analysis.

Results

Use of the Scholar's Workstation

Of the 112 subjects who completed a registration and follow-up questionnaire, 25 (22.32%) reported having never used the Workstation, 44 (39.28%) used it one to five times, 9 (8.04%) used it six to ten times, and 32 (28.57%) used it eleven or more times. There were 2 (1.79%) missing values. Faculty, Post Doctoral Fellows, and Research Associates/Assistants were predominantly moderate (6-10 times) and heavy (11+ times) users. Undergraduates were predominantly light (1-5 times) users or non-users. A detailed account of Workstation use by academic status is given in Table 2.

Times used	Academic Status						Number of subjects	Percent of total subjects (N=112)‡
	Faculty	Post Doc.	Research Assoc.	Grad. Student	Undergrad.	Other		
0	1	0	0	2	21	1	25	22.32
1	1	0	0	2	11	1	15	13.39
2-5	3	0	3	7	15	0	29†	25.89
6-10	2	0	0	3	4	0	9	8.04
11+	5	3	6	12	6	0	32	28.57

† Includes one missing value
‡ Includes two missing values

Table 2 Use of Workstation by Academic Status

Nonequivalent control group pretest-posttest

The nonequivalent control group pretest-posttest design involved subjects from site P only. Subjects in the experimental group reported having used the Scholar's Workstation at least once; those in the control group reported having never used the Workstation. The

difference in gain scores (posttest score – pretest score) for the two groups was tested for significance ($\alpha = .05$) using an independent samples *t*-Test.

Use of library services

Subjects in the experimental group reported an increase in the mean level of use of all listed library services except document delivery. Subjects in the control group reported a mean decrease in the use of reference assistance, interlibrary services, and library instruction and a mean increase in the use of document delivery and mediated online searches. The difference in gain scores for the two groups is statistically significant only in the case of reference assistance ($t = -3.92$, $df = 75$, $p = 0.0002$) and library instruction ($t = -2.15$, $df = 74$, $p = 0.0348$).

Use of electronic information sources

The experimental group and control group reported an increase in the use of local and remote online catalogs. Both groups also reported an increase in the use of the two online database services included in the study. A significant difference in the mean gain scores for the two groups was not, however, detected in either case.

The experimental group reported an increase in the use of all CD-ROM databases included in the study. The control group reported an increase in use of all but two of the CD-ROM databases. The difference in mean gain scores for the two groups was statistically significant only in the case of the *General Science Index* ($t = -2.10$, $df = 75$, $p = 0.0396$).

The experimental group reported an increase in the use of computer data files while the control group reported a decrease. A significant difference in the mean gain scores for the two groups was not detected.

Use of Internet services and sources

Both groups reported increased use of all Internet services and sources included in the study. A significant difference in the mean gain scores for the two groups was not, however, detected.

Availability of library services and information sources

The experimental group reported an increase in the availability of library services and electronic information sources. The control group reported a decrease in the availability of library services and no change in the availability of electronic information sources. No significant difference in the mean gain scores for the two groups was found in this section of the questionnaire.

One-group pretest-posttest

The one-group pretest-posttest design involved subjects from sites G, I, and K. All subjects included in this part of the study reported having personally used the Workstation at least once. A paired *t*-Test was used to detect significant differences ($\alpha = .05$) between pre- and post-test means.

Use of library services

For each library service included in the questionnaire, posttest means were higher than pretest means. In no case, however, was a significant difference between pre- and post-test means detected.

Use of electronic information sources

Subjects reported an increase in the use of local and remote online catalogs, however, no significant difference between pre- and post-test means was found. Subjects also reported an increase in use of the two online database services included in the study. In each case the difference was found to be significant: FirstSearch ($t = 3.91$, $df = 28$, $p = .0005$); UNCOVER ($t = 2.90$, $df = 28$, $p = 0.0072$).

A significant difference between pre- and post-test means was found for seven of the thirteen CD-ROM databases included in the study. The results for these databases are shown in Table 3.

Database	*T*	*df*	*p*
EI: Energy & Environment	5.01	28	<.0001
NTIS	2.37	28	0.0248
Enviro/Energyline	3.16	28	0.0038
General Science Index	2.52	28	0.0176
Agricola	2.35	28	0.0263
Medline	2.33	28	0.0275
Applied Science & Technology Index	3.03	28	0.0052

Table 3 CD-ROM Databases with Significant Differences in Use

Although subjects reported an increase in the use of computer data files, the difference between pre- and post-test means was not found to be significant.

Use of Internet services and sources

Subjects reported an increase in use of all Internet services and sources listed on the questionnaire. Significant differences in pre- and post-test means were detected for electronic mail ($t = 2.27$, $df = 28$, $p = 0.0311$), computer conferences ($t = 2.13$, $df = 27$, $p = 0.0422$), Gopher ($t = 2.96$, $df = 28$, $p = 0.0062$), and the World Wide Web ($t = 3.65$, $df = 27$, $p = 0.0011$).

Availability of library services and information sources

Subjects reported an increase in the availability of library services and electronic information sources. The difference between pre- and post-test means was found to be significant for both availability of library services ($t = 3.99$, $df = 28$, $p = 0.0004$) and electronic information sources ($t = 5.49$, $df = 28$, $p = <.0001$).

Discussion

The research designs used in this study are subject to a variety of threats to their internal validity. The nonequivalent control group pretest-posttest design (Site P) is subject to fewer threats than the one-group pretest-posttest design (Sites G, I, and K). Nonetheless, history and mortality are common threats to both designs.

History is a powerful extraneous variable in this study. During the course of the project (October 1993 - September 1995) the campus network was undergoing rapid expansion and a greater awareness of e-mail was developing among faculty, staff and students. At the same time the Internet was becoming increasingly popularized in the media and the emergence of the World Wide Web was making the Internet accessible to a much wider audience. History is an especially serious threat to the internal validity of the one-group pretest-posttest design. While less of a threat to the nonequivalent control group pretest-posttest design, history cannot be entirely ignored because subjects in the experimental group were self selected.

Mortality is also a serious threat to both designs. As mentioned earlier, data collection took place towards the end of each semester in an effort to reduce mortality due to graduation. Nonetheless, 56.5% of initial registrants at site P failed to complete the study. At the remaining sites 64.4% of initial registrants did not complete participation.

Nonequivalent control group pretest-posttest results

With respect to the research questions posed earlier, the results from the nonequivalent control group pretest-posttest design (site P) are largely inconclusive. For question one (use of library services) significant differences between the control and experimental groups were found in the levels of use of reference assistance and library instruction. For question two (use of electronic information sources) the only significant difference between the control and experimental groups was in the use of the *General Science Index*. No significant differences were found for items covered by research questions three and four.

Use of library services

One might expect that subjects' use of reference assistance would decline after exposure to the Scholar's Workstation. The rationale is that subjects from the experimental group

would locate information through the Workstation rather than seeking help from a reference librarian. In fact, the experimental group reported a mean increase ($N = 54$, $M_D = 0.48$, $SD = 1.37$) in the use of reference assistance while the control group reported a mean decrease ($N = 23$, $M_D = -0.91$, $SD = 1.56$).[2] The data does not provide any insight into the reasons for this result.

One might also expect subjects' use of library instruction to decline after exposure to the Scholar's Workstation. Subjects in the experimental group would presumably need less library instruction as they came to rely more on the Workstation for gathering information. In fact, the experimental group reported a mean increase ($N = 53$, $M_D = 0.28$, $SD = 1.51$) in the use of library instruction while the control group reported a mean decrease ($N = 23$, $M_D = -0.61$, $SD = 1.97$). A possible explanation for this result is that the experimental group associated the Workstation with the library and therefore equated instruction on using the Workstation to library instruction.

Use of electronic information sources

We expected subjects' use of electronic information sources to increase after exposure to the Scholar's Workstation because of the convenience of on-site access. The only significant difference between groups in this area was in the use of the *General Science Index*. For this database the experimental group reported a mean increase ($N = 54$, $M_D = 0.48$, $SD = 1.45$) in use while the control group reported a mean decrease ($N = 23$, $M_D = -0.26$, $SD = 1.36$). We are unable to explain why the two groups differed only in the use of this particular database when several other equally suitable databases were available.

One-group pretest-posttest results

The results from sites G, I, and K are more informative than those from site P. With respect to research question one (use of library services) no significant differences in pre- and post-test means were detected. Significant differences were, however, found for questions two (use of electronic information sources), three (use of Internet services and sources), and four (availability of library services and information sources).

Use of electronic information sources

We expected the use of electronic information sources to increase after exposure to the Scholar's Workstation. Indeed, a significant increase in use was found for both online databases: *FirstSearch* ($N = 29$, $M_D = 1.03$, $SD = 1.43$) and *UNCOVER* ($N = 29$, $M_D = 0.79$, $SD = 1.47$).

Seven CD-ROM databases also showed significant differences in use. The largest differences were for *EI: Energy & Environment* ($N = 29$, $M_D = 1.69$, $SD = 1.81$), *Applied Science & Technology Index* ($N = 29$, $M_D = 1.28$, $SD = 2.27$), and *Enviro/Energyline* ($N = 29$, $M_D = 1.24$, $SD = 2.12$). Smaller differences were found for the *General Science*

[2] Throughout this article M_D refers to the mean of difference (posttest-pretest) scores.

Index ($N = 29$, $M_D = 0.97$, $SD = 2.06$), *Medline* ($N = 29$, $M_D = 0.90$, $SD = 2.08$), *NTIS* ($N = 29$, $M_D = 0.79$, $SD = 1.80$), and *Agricola* ($N = 29$, $M_D = 0.79$, $SD = 1.82$).

The data does not provide any insight into why significant differences in use were found for some databases but not for others. It is, however, interesting to note that the databases showing significant differences were all grouped in the same Workstation submenu as the two databases with a specific focus on environmental information: *EI: Energy & Environment* and *Enviro/Energyline*. The remaining databases were listed in another part of the menu system.

Use of Internet services and sources

As expected, use of Internet services increased after subjects were exposed to the Workstation. A significant increase in use was detected for four Internet services: e-mail ($N = 29$, $M_D = 0.90$, $SD = 2.13$), computer conferences ($N = 28$, $M_D = 0.82$, $SD = 2.04$), Gopher ($N = 29$, $M_D = 1.07$, $SD = 1.94$), and the World Wide Web ($N = 28$, $M_D = 1.61$, $SD = 2.33$). We caution, however, that the reliability of these results is questionable due to the possible effects of the extraneous variable history.

The data does not indicate why some Internet services showed significant differences while others did not. Nonetheless, it is hardly surprising that the low-level (i.e., harder to use) Internet services such as remote login and FTP showed no significant differences in use.

Availability of library services and information sources

One of the goals of the Scholar's Workstation project was to improve the availability of selected library services and electronic sources. The data from this section of the study suggest that these goals were achieved. Significant differences between pre- and post-test means were found for both the availability of library services ($N = 29$, $M_D = 1.45$, $SD = 1.96$) and the availability of electronic information sources ($N = 29$, $M_D = 1.62$, $SD = 1.59$).

In summary, for sites G, I, and K, use of several electronic sources and Internet services increased after subjects were exposed to the Workstation. User perceptions of the availability of electronic information sources also improved. We did not find evidence of changes in use of library services after introduction of the Workstation, however, user perceptions of the availability of these services did improve.

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Appendix A

MODEL SCHOLAR'S WORKSTATION
REGISTRATION/USER PROFILE

The Model Scholar's Workstation on the Electronic Frontier offers access to library resources and services at a site convenient to faculty, researchers and students. Your responses to this survey will help us assess the usefulness of an electronic branch library to faculty and students. We expect the survey to take less than ten minutes to complete.

While your participation in this study is completely voluntary, your response will contribute greatly to the validity of the research. All responses will be kept confidential. Only the researcher will have access to the names of participants which will be stored separately from the survey responses. Only aggregate data will be reported to the funding agency and in any resulting publications.

Your consent to participate in this study is implied when you complete the questionnaire and return it to me. If you have any questions about the study, please contact Dr. Richard Pollard, Rm. 307 Temple Court, University of Tennessee, 804 Volunteer Blvd., Knoxville, TN 37996-4330, or call (615) 974-8026.

Please provide the following information so that we may send you a follow-up questionnaire at a later date.

Name (Last, First, Middle): _____ _____

UTK Department/Unit: _____

Campus Address: _____

Campus Telephone: _____

E-mail address: _____

1. ACADEMIC STATUS

Please check one.

- ❒ (A) Faculty
- ❒ (B) Post Doctoral Fellow
- ❒ (C) Research Associate/Assistant
- ❒ (D) Graduate Student
- ❒ (E) Undergraduate Student
- ❒ (F) Other (please specify): _____

2. USE OF LIBRARY SERVICES

Please circle the number that most appropriately reflects your current level of use of the following library services. If you have never used a particular service, circle NA.

		Rarely				Frequently	
2.1	Reference assistance	1	2	3	4	5	NA
2.2	Interlibrary Services (ILS)	1	2	3	4	5	NA
2.3	Document delivery service (Library Express)	1	2	3	4	5	NA
2.4	Library instruction	1	2	3	4	5	NA
2.5	Online search performed by a librarian on your behalf	1	2	3	4	5	NA
2.6	Other (please specify services and usage frequency using the same rating scale as above).						

3. USE OF ELECTRONIC INFORMATION SOURCES

For each item, please circle the number that most appropriately reflects your level of use during the last four months. If you did not use a particular electronic information source, circle NA.

		Rarely				Frequently	
3.1	UTK Online Library Catalog	1	2	3	4	5	NA
3.2	Online catalogs (other than UTK)	1	2	3	4	5	NA

Please continue to the next page

		Rarely				Frequently	
3.3	FirstSearch (OCLC)	1	2	3	4	5	NA
3.4	UNCOVER	1	2	3	4	5	NA
3.5	ABI Inform	1	2	3	4	5	NA
3.6	EI: Energy & Environment	1	2	3	4	5	NA
3.7	PAIS	1	2	3	4	5	NA
3.8	NTIS	1	2	3	4	5	NA
3.9	Newsbank Index	1	2	3	4	5	NA
3.10	Enviro/Energyline CD +	1	2	3	4	5	NA
3.11	Marcive Monthly Catalog	1	2	3	4	5	NA
3.12	General Science Index	1	2	3	4	5	NA
3.13	Agricola	1	2	3	4	5	NA
3.14	CAB Abstracts	1	2	3	4	5	NA
3.15	Medline	1	2	3	4	5	NA
3.16	Applied Science & Technology Index	1	2	3	4	5	NA
3.17	Dissertation Abstracts	1	2	3	4	5	NA
3.18	NewsNet (Newsletter service)	1	2	3	4	5	NA
3.19	Dow Jones	1	2	3	4	5	NA
3.20	Computer datafiles (e.g., ICPSR, Genbank, etc.)	1	2	3	4	5	NA

3.21 Other (please specify titles and usage frequency using the same rating scale as above).

Please continue to the next page

4. USE OF NETWORK SERVICES AND SOURCES

For each item, please circle the number that best describes your level of use for teaching/research/ course-work during the last four months. If you did not use a particular service, circle NA.

		Rarely				Frequently	
4.1	Electronic mail (E-mail)	1	2	3	4	5	NA
4.2	Computer conferences/Listservs/USENET news groups	1	2	3	4	5	NA
4.3	File transfer (FTP)	1	2	3	4	5	NA
4.4	Login to remote online catalog/databases/archives	1	2	3	4	5	NA
4.5	Gopher	1	2	3	4	5	NA
4.6	WAIS	1	2	3	4	5	NA
4.7	World Wide Web (e.g., Mosaic, Cello)	1	2	3	4	5	NA
4.8	Electronic scholarly journals	1	2	3	4	5	NA
4.9	Electronic reference materials	1	2	3	4	5	NA

4.10 Other (please specify services/sources and usage frequency using the same rating scale as above).

5. AVAILABILITY OF SERVICES AND INFORMATION

For each item, please circle the number that most appropriately reflects your opinion about...

		Poor				Excellent	
5.1	Availability of library services at your site.	1	2	3	4	5	NA
5.2	Availability of electronic information sources at your site.	1	2	3	4	5	NA
5.3	Quality of information gathered from electronic sources.	1	2	3	4	5	NA

Please continue to the next page

6. INFORMATION GATHERING

Please circle the number that is most appropriate to the information gathering activities performed in connection with your teaching/research/course-work during the last four months. Information gathering activities include finding articles, reports, books, and items in electronic form.

		Large				Small	
6.1	Proportion of your time spent gathering information	1	2	3	4	5	NA
6.2	Amount of time spent by someone else on your behalf	1	2	3	4	5	NA
6.3	Overall cost (including time) of gathering information	1	2	3	4	5	NA

7.0 Please circle the number that most appropriately reflects your opinion about the utility of a public workstation providing electronic access to a range of information services/resources. This workstation would be installed in a public area at your site.

Useless				Useful	
1	2	3	4	5	NA

Thank you for your participation.

Please fold and seal (staple or tape) this questionnaire before returning by campus mail.

MODEL SCHOLAR'S WORKSTATION QUESTIONNAIRE

The Model Scholar's Workstation on the Electronic Frontier offers access to library resources and services at a site convenient to faculty, researchers and students. Your responses to this survey will help us assess the usefulness of an electronic branch library to faculty and students. We expect the survey to take less than ten minutes to complete.

While your participation in this study is completely voluntary, your response will contribute greatly to the validity of the research. All responses will be kept confidential. Only the researcher will have access to the names of participants which will be stored separately from the survey responses. Only aggregate data will be reported to the funding agency and in any resulting publications.

Your consent to participate in this study is implied when you complete and return the questionnaire. If you have any questions about the study, please contact Dr. Richard Pollard, 307 Temple Court, University of Tennessee, 804 Volunteer Blvd., Knoxville, TN 37996-4330, or call (615) 974-8026.

Please make any necessary corrections to the information printed on the attached mailing label. If a mailing label is not attached to this sheet, please provide the following information.

Name (Last, First, Middle): _____

UTK Department/Unit: _____

Campus address: _____

Campus Telephone: _____

E-mail address: _____

If you received this questionnaire during a class, please include the following information.

Course department and number: _____

Course title: _____

Instructor name: _____

1. USE OF SCHOLAR'S WORKSTATION

How many times have you personally used the Scholar's Workstation? Please check one.

- ❒ (A) Never
- ❒ (B) 1 time
- ❒ (C) 2-5 times
- ❒ (D) 6-10 times
- ❒ (E) 11+ times

2. USE OF LIBRARY SERVICES

Please circle the number that most appropriately reflects your current level of use of the following library services. If you have never used a particular service, circle NA.

		Rarely				Frequently	
2.1	Reference assistance	1	2	3	4	5	NA
2.2	Interlibrary Services (ILS)	1	2	3	4	5	NA
2.3	Document delivery service (Library Express)	1	2	3	4	5	NA
2.4	Library instruction	1	2	3	4	5	NA
2.5	Online search performed by a librarian on your behalf	1	2	3	4	5	NA
2.6	Other (please specify services and usage frequency using the same rating scale as above)						

3. USE OF ELECTRONIC INFORMATION SOURCES

For each item, please circle the number that most appropriately reflects your level of use during the last four months. If you did not use a particular electronic information source, circle NA.

		Rarely				Frequently	
3.1	UTK Online Library Catalog	1	2	3	4	5	NA
3.2	Online catalogs (other than UTK)	1	2	3	4	5	NA

Please continue on the back

		Rarely					Frequently	
3.3	FirstSearch (OCLC)	1	2	3	4	5		NA
3.4	UNCOVER	1	2	3	4	5		NA
3.5	ABI Inform	1	2	3	4	5		NA
3.6	EI: Energy & Environment	1	2	3	4	5		NA
3.7	PAIS	1	2	3	4	5		NA
3.8	NTIS	1	2	3	4	5		NA
3.9	Newsbank Index	1	2	3	4	5		NA
3.10	Enviro/Energyline CD +	1	2	3	4	5		NA
3.11	Marcive Monthly Catalog	1	2	3	4	5		NA
3.12	General Science Index	1	2	3	4	5		NA
3.13	Agricola	1	2	3	4	5		NA
3.14	CAB Abstracts	1	2	3	4	5		NA
3.15	Medline	1	2	3	4	5		NA
3.16	Applied Science & Technology Index	1	2	3	4	5		NA
3.17	Dissertation Abstracts	1	2	3	4	5		NA
3.18	NewsNet (Newsletter service)	1	2	3	4	5		NA
3.19	Dow Jones	1	2	3	4	5		NA
3.20	Computer datafiles (e.g., ICPSR, Genbank, etc.)	1	2	3	4	5		NA

3.21 Other (please specify titles and usage frequency using the same rating scale as above).

4. USE OF NETWORK SERVICES AND SOURCES

For each item, please circle the number that best describes your level of use for teaching/research/ course-work during the last four months. If you did not use a particular service, circle NA.

		Rarely				Frequently	
4.1	Electronic mail (E-mail)	1	2	3	4	5	NA
4.2	Computer conferences/Listservs/USENET news groups	1	2	3	4	5	NA
4.3	File transfer (FTP)	1	2	3	4	5	NA
4.4	Login to remote online catalog/databases/archives	1	2	3	4	5	NA
4.5	Gopher	1	2	3	4	5	NA
4.6	WAIS	1	2	3	4	5	NA
4.7	World Wide Web (e.g., Mosaic, Cello)	1	2	3	4	5	NA
4.8	Electronic scholarly journals	1	2	3	4	5	NA
4.9	Electronic reference materials	1	2	3	4	5	NA

4.10 Other (please specify services/sources and usage frequency using the same rating scale as above).

5. AVAILABILITY OF SERVICES AND INFORMATION

For each item, please circle the number that most appropriately reflects your opinion about...

		Poor				Excellent	
5.1	Availability of library services at your site.	1	2	3	4	5	NA
5.2	Availability of electronic information sources at your site.	1	2	3	4	5	NA
5.3	Quality of information gathered from electronic sources.	1	2	3	4	5	NA

Please continue on the back

6. INFORMATION GATHERING

Please circle the number that is most appropriate to the information gathering activities performed in connection with your teaching/research/course-work during the last four months. Information gathering activities include finding articles, reports, books, and items in electronic form.

		Large				Small	
6.1	Proportion of your time spent gathering information	1	2	3	4	5	NA
6.2	Amount of time spent by someone else on your behalf	1	2	3	4	5	NA
6.3	Overall cost (including time) of gathering information	1	2	3	4	5	NA

7. REACTIONS TO THE SCHOLAR'S WORKSTATION

If you have *never* used the Scholar's Workstation, please skip to section 9.

For each item please circle the number that most appropriately reflects your opinion of the Scholar's Workstation installed at your site.

7.1	Useless					Useful	
	1	2	3	4	5		NA
7.2	Frustrating					Satisfying	
	1	2	3	4	5		NA
7.3	Dull					Stimulating	
	1	2	3	4	5		NA
7.4	Difficult					Easy	
	1	2	3	4	5		NA
7.5	Rigid					Flexible	
	1	2	3	4	5		NA

8. AVAILABILITY AND ASSISTANCE

Was the Scholar's Workstation available when you needed it?

8.1	Never					Always	
	1	2	3	4	5		NA

Does the assistance provided by the on-site team member enhance the usefulness of the Scholar's Workstation?

8.2 Not at all Very much
1 2 3 4 5 NA

9. OTHER REACTIONS, IMPRESSIONS, AND COMMENTS

Thank you, your continued participation is appreciated!

Please fold and seal (staple or tape) this questionnaire before returning by campus mail.